

REMARKS

Reconsideration of the application is respectfully requested.

Status of claims

Claim 12 is cancelled. Claims 1-11, 13-32 remain pending in the application. No new claims have been inserted.

Interview

Applicants thank Examiner Lavin and his supervisor for the courtesy he extended during the telephonic interview October 13, 2005 with one of the inventors, Dr. Kenneth Overton, and the undersigned representative. Claims 1, 8, 18, and 31, and U.S. Patent Nos. 6,297,853 (Sharir et al.) and 6,266,100 (Gloudemans et al.), were discussed. No agreement was reached.

Claims 1-3, 7, 8-9 11-15, and 17-20

Independent claims 1, 8 and 18 have been amended to require that a "three dimensional computer model" of a site be used to define a target area. The site that is modeled may include one or more objects that are modeled within a three-dimensional, predefined coordinate frame, without reference to any particular viewpoint. The one or more objects may be either real or imaginary.

These claims were rejected as being obvious in view of Sharir et al., either standing alone or in combination with US Patent No. 4,693,378 (Azegami). As discussed during the interview, Sharir et al. employ a fundamentally different approach than the claimed invention for identifying a target area within an image in a sequence of images frames. Sharir et al. works entirely within each image. Beginning in column 4, at line 62, Sharir et al. describe scanning a video frame to detect a suspected "target." The target is detected and identified using a variety of techniques described at column 3, lines 48-61 and column 5, lines 1-5 that rely on recognizing objects displayed within the image. Once the targets are located, an image may be substituted for the target. Col. 5, lines 23-26.

Candidates for other possible targets can be located using the locale's "layout" in a "databank." Dr. Overton explained during the interview that, in the art, this layout is like a map that describes relationships between target areas as they might be seen from the same vantage point as the camera which took the image, much like map of the constellations projected on the inside of a sphere shows the relationships between constellations. The layout gives "positive search clues for additional targets in the same video frame." Col. 5, lines 11-12.

With respect to claims 1, 8 and 18, Sharir et al. obviously cannot use imaginary surfaces as targets, as they would not appear in the images and thus could never be located. In the last Office action, the Examiner references col. 18, line 7, as describing insertion of an advertisement on a surface which does not exist. However, it is submitted that Sharir et al. is simply identifying a target and inserting next to that target an image. They explain in the same paragraph that, "The images of these moving objects may then be modified by adding a 'trail' including an advertisement such as a log of a manufacturer." No mention or suggestion is made of an imaginary or virtual surface defined in any model of the site.

Applicants therefore respectfully submit that independent claims 1 and 18, as well as all claims depending from them, namely claims 2-7, 10, 11, 13-15, 17, and 19-30 are allowable for at least the foregoing reasons. It is further submitted that the other art of record, in particular US Patent No. 6,266,100 of Gloudemans et al., cannot suggest modifying Sharir et al. to use of a three-dimensional model to define target areas for reasons explained below in connection with the remarks directed to claim 31.

Claims 8 and 9

Claim 8 has been corrected by inserting the content of claim 7. Therefore the objection to claim 8 under 37 C.F.R. 1.75(a) has been cured.

Page 26, line 24 to page 27, line 8, of the present application explains that a foreground parameter accounts for variations in camera zoom, by calculating the proportion of the total number of pixels that are either part of the background or part of the target image. It is respectfully submitted that the occlusion parameter in Sharir is nothing to do with camera zoom, and simply measures how much of the target area is occluded. To make this clear, claim 8 has been amended to state that the foreground parameter compensates for the zoom of the image capture system.

The reasoning of the Examiner, that the "occlusion parameter is a foreground parameter," is therefore incorrect, and the rejection is in error for at least this reason. Withdrawal of the rejection of claim 8, and its dependent claim 9, is respectfully requested.

Rejections of Claims 21, 22, 30 and 31

The amendments to claim 31 correct typographical errors and are not intended to narrow the scope of the claims. They are not being made in response to the rejection.

In rejecting independent claim 31, as well as dependent claims 21, 22 and 30, the Examiner argues that it have been obvious to modify Sharir to use a three-dimensional computer model of a venue

as taught in US Patent No. 6,266,100 of Gloudemans et al. He states on page 7, and again on page 8 with reference to claim 31:

Gloudemans uses the three-dimensional mode to accurately determine what a camera is pointed at, and then correctly insert that ad. Modifying Sharir to include this operation would simplify the image processing needed to determine a target area as well as make the process more accurate as the system would be able to determine precisely where a camera is pointed.

Applicants respectfully traverse the rejection of these claims as being in error.

Rather, Sharir et al and Gloudemans et al. take fundamentally different approaches to insertion of advertising or other graphics into an image frame. As explained above, Sharir utilizes an approach of identifying within an image frame predefined "targets," without any knowledge of where the camera is pointing. Therefore, more accurate information of where the camera is pointed is of no use. Gloudemans et al. utilize a three-dimensional model of the "environment," such as a football field or stadium, which serves as a three-dimensional representation of the object. Col. 8, lines 52-65. The system of Gloudemans et al. needs information of where the camera is actually pointed to determine where in a two-dimensional image of the environment a predefined location within the model appears. Therefore, contrary to what the Examiner appears to suggest in the reasoning for the rejection, use of a three-dimensional model does not make that camera position information more accurate.

It is respectfully submitted not only that the stated motivation for modifying Sharir et al. is incorrect, but also that modifying Sharir et al. in the manner suggested by the Examiner would also substantially change the principle of operation of Sharir et al. A *prima facie* case of obviousness has therefore not been made. See M.P.E.P. § 2143.01. Applicants therefore respectfully submit that claims 21, 22, 30 and 31, and all rejected claims depending from them, namely claims 23, 25, 28, 29, and 32, are allowable for at least this reason. Withdrawal of this rejection is respectfully requested.

Appl. No. 09/903,122
Amendment dated November 8, 2005
Reply to Office action of May 17, 2005



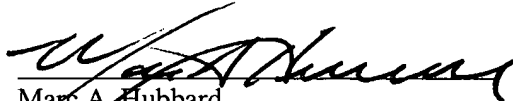
Conclusion

For the foregoing reasons, applicant respectfully submits that all of the pending claims are allowable and requests a notice of allowance.

Attached is a Petition for 3-Month Extension of Time (in duplicate). Please charge the extension fee in the amount of \$510.00 to Deposit Account No. 13-4900 in the name of Munsch Hardt Kopf & Harr, P.C. In addition, please charge any additional charges or credit any overpayment to Deposit Account No. 13-4900.

Respectfully submitted,

Date: November 8, 2005
Munsch Hardt Kopf & Harr, P.C.
1445 Ross Avenue, Suite 4000
Dallas, TX 75202
Tel. (214) 855-7571
Customer No. 23559


Marc A. Hubbard
Registration No. 32,506